

1970 ANNUAL REPORT



NATIONAL STARCH AND CHEMICAL CORPORATION

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President

EDWARD B. CONWAY
*President, Edward B. Conway Inc.,
New York, N. Y.*

HENRY A. CORREA
President, ACF Industries, New York, N. Y.

JOHN F. FITZGERALD
Vice President

GORDON GRAND, JR.
*President and Chief Executive Officer
Olin Mathieson Chemical Corporation
New York, N. Y.*

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Chairman of the Executive Committee

ROBERT W. MERRITT
Executive Vice President

WILLIAM A. MITCHELL
*Retired, Formerly Chairman,
The Central Trust Co., Cincinnati, Ohio*

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Chairman of the Board

OSCAR M. RUEBHAUSEN
Partner, Debevoise, Plimpton, Lyons & Gates

SIDNEY F. THUNE
Executive Vice President

Honorary Directors

JOSEPH J. DANIELS
*Partner, Baker & Daniels,
Indianapolis, Indiana*

HERBERT C. PIEL
Formerly Vice President of the Company

OFFICERS

DONALD D. PASCAL
*Chairman of the Board
and Chief Executive Officer*

FRANK K. GREENWALL
Chairman of the Executive Committee

CARLYLE G. CALDWELL
President

ROBERT W. MERRITT
Executive Vice President, Starch Division

SIDNEY F. THUNE
*Executive Vice President, Adhesive
& Resin Divisions*

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Vice President, Starch Marketing

ROBERT A. BINTZ
Vice President, Starch Manufacturing

LESTER KLEMPNER
Vice President, National Accounts

HAROLD R. SAMPSON
*Vice President, Employee Relations,
and Secretary*

BERKLEY V. SCHAUB
Vice President, International Operations

S. A. SEGAL
Vice President, Administration and Finance

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Treasurer

A. G. BATTAGLIA
Assistant Vice President

JOHN C. CLAY
Assistant to the Chairman of the Board

ROBERT A. DE WOLFE
Assistant Vice President

J. DONALD GEORGE
Assistant Vice President

WALLACE K. GRUBMAN
Assistant Vice President

FRANCIS L. MURPHY
Assistant Vice President

WILLIAM H. STONE
Assistant Vice President

General Counsel
Debevoise, Plimpton, Lyons & Gates

Auditors
Main Lafrentz & Co.

Transfer Agent
Morgan Guaranty Trust Company of
New York

Registrar
The Chase Manhattan Bank

Annual Meeting
May 3, 1971, Hotel Biltmore, N. Y.

NATIONAL STARCH AND CHEMICAL CORPORATION

ANNUAL REPORT

FOR THE YEAR ENDED DECEMBER 31, 1970

COMPARATIVE HIGHLIGHTS

	1970	1969
Net sales	\$134,941,493	\$128,057,991
Earnings before income taxes	\$ 17,499,032	\$ 16,267,720
Taxes on income	\$ 8,069,788	\$ 7,877,730
Net income	\$ 9,429,244	\$ 8,389,990
Depreciation	\$ 4,768,983	\$ 4,733,406
Cash dividends: preferred	\$ 472,500	\$ 236,250
common	\$ 3,487,130	\$ 3,378,695
Capital additions	\$ 5,653,473	\$ 9,095,190
Plants, properties and equipment (net)	\$ 48,261,343	\$ 47,413,873
Net income per common share	\$1.54	\$1.37
Cash dividends per common share	\$.60	\$.58
Average shares of common stock outstanding	5,811,883	5,792,561
Number of common stockholders	3,304	3,296

Contents

Directors and Officers	Inside Front Cover
Comparative Highlights	1
To Our Shareholders	2
Market Review	4
International	11
Research and Development	12
Consolidated Income	14
Consolidated Retained Earnings	14
Consolidated Balance Sheet	15
Consolidated Source and Application of Funds	16
Notes To Financial Statements	16
Ten Year Summary	18
Offices, Laboratories, Plants	20

TO OUR SHAREHOLDERS



Donald D. Pascal, *left*, Carlyle G. Caldwell, *right*.

If we had to sum up 1970 in one sentence, we would say it was a rather good year, considering the reduced activity of many of our major markets and of the economy as a whole.

Sales increased by 5% to a new high of \$134,941,493 and extended our record of consecutive sales increases to 21 years. While most of the gain was due to price increases and product mix improvements, our volume held up quite well in view of the decline in the overall requirements of our customers.

Earnings were up 12% over 1969 to \$9,429,244, actually a record, even though only slightly better than our previous high in 1968 of \$9,322,714. Hopefully, we have resumed our pattern of consecutive annual earnings increases. Earnings per common share were \$1.54 compared to \$1.37 in 1969 and the same as 1968's previous record high. Incidentally, these earnings do not include a profit of \$249,454, equivalent to over 4¢ per share, resulting from the unpegging of the Canadian dollar, which has been set aside as a reserve against possible future currency devaluations.

On February 1, 1971, the Board of Directors increased the quarterly cash dividend on the common shares, effective with the February 1971 payment, to 16¢ per share, an increase of 6⅔% over the 15¢ per share paid quarterly during 1970.

For the most part, our performance in 1970 represents a return to a more normal assortment of plus and minus factors as contrasted to 1969 when unfavorable factors were unusually heavy. Overall, our margins were aided by strong cost control efforts. Starch margins improved somewhat during the first half of the year as prices strengthened in belated recognition of 1969 corn price and labor cost increases, and were further assisted by gradual improvements in our product mix. The corn blight became apparent in August and resulted in a very substantial and sudden increase in the price of corn. However, we were able to react quickly with additional price increases on most starch products, thus avoiding any significant impact on our margins. A small increase in adhesive prices in July also helped offset some of 1969's cost inflation. The effects of both these improvements were somewhat impaired, however, by continued gradual price attrition in some of our less specialized resin emulsions — an area more affected by the pressure for volume at the expense of profits so characteristic of some elements of the chemical industry.

A marked improvement in our international operations was most helpful. All consolidated international companies showed record sales and earnings, except for sales in Mexico. Canadian operations were particularly outstanding as startup costs at our new starch plant in Collingwood

were absorbed by increased volume. Substantial continued improvement in the non-consolidated joint ventures was also evident.

Early in 1971 the Company expanded international operations in two new areas. In February, we agreed to buy, for cash, 49% of the common stock of Adhesivos y Gomas de Venezuela, C.A., a principal manufacturer of adhesives in Venezuela and a wholly-owned subsidiary of Montana, C.A. On March 3, we entered into an agreement to form a joint venture with Oji Cornstarch Company of Japan for the manufacture and sale of modified starch products. Oji Cornstarch is one of Japan's leading corn wet millers. It is owned jointly by Oji Paper Company and Mitsui and Company.

Strong research and development programs continued to support corporate growth in 1970. Specialty products developed to meet customer needs improved our overall product mix, helped us remain strongly competitive and strengthened our recognition as service-oriented problem solvers. 1970 research and development expenditures remained in excess of \$6 million, but were slightly lower than in 1969, reflecting overall improvements in cost control and greater concentration on high-potential projects.

Capital expenditures in 1970 were \$5,653,473, down substantially from the \$9,095,190 spent in 1969, the reduction reflecting in part the completion of Collingwood and a dextrin capacity increase at Indianapolis. Major projects undertaken in 1970 included Proctor Chemical Company's plant expansion at Salisbury, North Carolina and construction of a new 100,000 sq. ft. facility for LePage's Ltd. near Toronto. With expanded dextrin capacity in Indianapolis completed, operations were terminated at the end of 1970 at our old high-cost dextrin plant in Baltimore. Capital expenditures in 1971 are expected to be somewhat, but not significantly higher than the 1970 level, and will cover such items as increased starch drying capacity at Indianapolis, a resin capacity expansion in England, effluent treatment at the Collingwood starch plant, a new adhesive plant at Vancouver and the balance of the new LePage's facility.

While, by most standards, we have fewer pollution problems than are created by the average manufacturing process, pollution control efforts were accelerated during 1970. Both capital expenditures and expenses of operations have been affected by stricter state and federal standards.

In December, 1970, a registration statement covering a secondary offering of 120,000 shares of our common stock became effective. Of the total, 75,959 shares were sold by charitable and educational institutions which had received

the shares over some years as gifts from Mr. and Mrs. Frank K. Greenwall. The remaining 41,041 were sold by Mr. and Mrs. Greenwall and a family trust. Mr. and Mrs. Greenwall and the family trust continue to own 990,073 or 17% of our outstanding common shares.

On November 12, 1970, the company granted options under its 1965 Stock Option Plan to 31 key employees of the company and its Canadian subsidiary in an aggregate amount of 27,979 common shares, less the number of shares purchased by such employees under options granted on January 24, 1966, at a price of \$22.86 per share. The new options were granted at the closing market price on the day of the grant of \$24.50 per share.

Options granted under the Employee Stock Purchase Plan in 1969 were automatically revoked, under the terms of the offering, on November 30, 1970, since the market price of the stock was less than the minimum price under the offering. New options were offered on January 11, 1971 at a maximum price of \$26.50, the offering to be completed on January 31, 1972.

We are deeply saddened by the death, on January 3, 1971, of Mr. Bernard H. Schulist, who had contributed greatly to the company's growth and progress, having served as a director since 1941. In September, 1970, the resignation of Mr. William F. Laporte, a director since 1966, was accepted with regret.

Even recognizing current economic and political uncertainties, it is difficult not to be optimistic about our prospects in 1971 and beyond. Our resumption of progress in 1970 was accomplished in the face of adverse market conditions and we are confident that a business upturn will provide strong future support. And, while we are somewhat less confident about when in 1971 we will see the upturn we are looking for, we feel that our organization, people, plant and our resources generally, are in fine shape to continue our forward progress.

Our people, as always a dedicated group, have done a good job this past year and for that, and for their eagerness to do even better, we are grateful. To them, and to all our friends, shareholders, customers and suppliers, once again our sincerest thanks.

March 3, 1971

Donald O. Rasco *Charles L. Caldwell*

Chairman of the Board

President

MARKET REVIEW

Factory produced housing, including mobile and modular homes, represents a large and growing percentage of all new housing. This type of manufacture offers major potential for our broad line of structural adhesives.

Adhesives

Our steadily increasing growth in hot melt adhesives has been enhanced by large scale production from the Plainfield hot melt plant which went on stream late in 1969. The problems of producing pure and uniform hot melts, which limited hot melt growth generally for many years, have been overcome by new manufacturing techniques. In addition, a trend toward modernization of many customer packaging operations, involving hot melt equipment, is a major factor in the rapid growth of hot melts.

The utilization of hot melts goes beyond general packaging applications and is becoming an important factor in other areas. A National roundable hot melt for hard cover edition bookbinders, and an easy-open hot melt for book and magazine use, found wide acceptance this year.

Additions to our adhesive line included new products for all phases of envelope manufacture. In addition, higher strength adhesives for multi-wall bags, water soluble adhesives for tissues and towels, and bottle labeling adhesives specifically designed for new higher speed equipment were added, as were a removable acrylic pressure sensitive adhesive and a new series of multi-purpose adhesives for general packaging and converting. For the rapidly growing flexible packaging field, we introduced two new polyurethane polymers. One is a fast-curing single-component adhesive

while the other is a high-performance two-component product for such constructions as boilable pouches.

Improvements in the housing and furniture industries are expected. This projected upturn should mean a resumption of growth in the use of our hot melts, our enlarged contact cement line, and our other adhesive systems for woodworking.

Paper and Paperboard

Our broad range of specialty products for all phases of papermaking is highlighted by cationic starches, resin products and products used for water treatment.

Faced with increasing postal rates, large paper users are demanding lighter weight papers with no reduction in strength, opacity or printability. These characteristics are obtainable through several products in our Cato® series, and our variety of vinyl acetate coating resins.

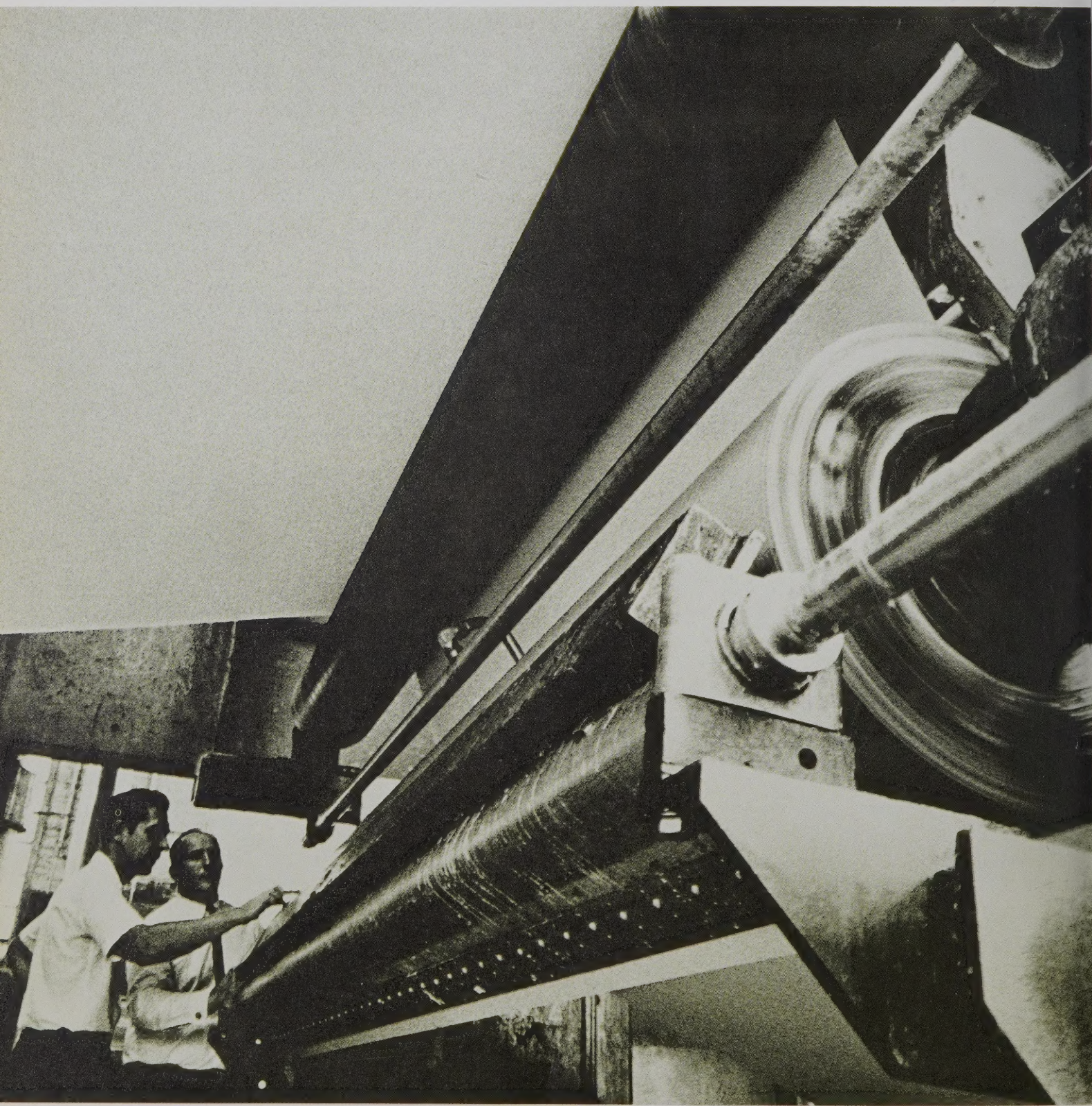
The fastest growing paper grade used by the printing industry is web-fed offset. For National this grade offers excellent potential due to a number of specific performance requirements particularly well satisfied by three of our specialty products.

Under growing pressures from various regulatory agencies to improve pollution control measures, many mills are turning to such products as Natron® 86, our polyelectrolyte flocculant for drainage,

High speed packaging lines can be brought to a costly halt by adhesive failure.

At National, the emphasis is on close technical support and product research that anticipates changing customer needs.





clarification and fiber recovery applications. Natron 86 has made progress in paper and paperboard mills and is being offered to a number of other industries.

Fibran™ (formerly designated R-68), our replacement for rosin and other synthetic sizing agents, has been selectively introduced to the paper industry this year with good results. Our estimate of the long term potential of Fibran remains optimistic.

The corrugating industry, which has shown steady growth, continues to be an important market for National. Our Nabond®, along with its attendant resin catalyst, has become a standard adhesive system for many corrugators and our new high performance Vinamyl™ adhesive system, introduced late in 1970 for exceptionally demanding waterproof board applications, shows good promise.

Food

A variety of new applications for National food starch specialties, combined with good growth in a number of foods utilizing National products as basic ingredients, highlighted our continued growth in the food area.

Textaid®, a relatively new but steadily growing thickener and texturizer for sauces and juices, found new uses as a binder in canned meat products, pet foods and extruded potato products. Several other National products have become pie and pastry filling standards for many bakers and are widely used in soups, gravies and other canned and frozen foods.

Crisp Film® has gained acceptance as a coating for french fried products, improving appearance, crispness and lengthening shelf life. The fast growing snack segment of the food industry is

benefiting from National's specialty starches for extruded snack items and from Baka-Snak® in particular, which is also being used to produce fuller, crispier crackers and flakier pastry crusts. Other National products, offering beverage processors domestic alternatives to gum arabic for beverage emulsification, have grown steadily in usage.

Close marketing and technical contact with major food companies ensure that the characteristics of National products are well known and, in turn, ensure that the product development needs of major consumer marketers are known to National. This cooperation, combined with National's strong research capability, has resulted in numerous product breakthroughs for National as well as its customers.

Textiles

Our line of specialty products for textiles covers both weaving and finishing areas. Introduction this year, of a new specialty sizing starch rounded out our product line for weaving mills. The new product, a cationic starch derivative, is being offered for medium yarn count fabrics, such as voile and sheeting, while our Hi-Bond®, also a cationic product, is recommended for more difficult constructions like broadcloth and poplin. A third National product is used on more easily woven print cloth and other fabrics.

National's three-product line enables weavers to select a size based on the difficulty of the fabric they are running — and to control their costs accordingly.

A National resin for fiberfill, the material used in quilts, cushions and padded clothing, gained good acceptance in 1970, and a variety of other resin products for such applications as flocking, fire retardancy, laminating and backcoating are in various stages of development and testing.

National's sales and technical service representatives are market as well as product specialists. Customer confidence in their ability to recognize problems and offer solutions, has contributed to our growth in all markets.



Many institutional as well as retail bakers make extensive use of National food starches in pie, pastry and cake fillings. Other specialty food starches from National provide body, texture, stability and longer shelf life in a wide variety of canned, frozen, glassed and dry foods.

Proctor Chemical Company maintained its volume in textile finishing chemicals for permanent press, soil release and easy care fabrics as well as in its contract chemicals business. Proctor's new manufacturing facility in Salisbury, North Carolina, began to come on stream late in 1970, greatly increasing production capacity.

Disposables and Nonwovens

National's unique position in the rapidly developing disposables and nonwoven field stems from long association with the industries most directly involved — paper and textile — and with the techniques involved — saturation, lamination and adhesion.

Because product groups for disposables and nonwovens cut across the Company's internal divisions, a separate department has been formed to coordinate technical and marketing efforts. National's broad range of polymers and copolymers, together with crosslinking versions, hot melts and other adhesives, are finding application in this expanding industry.

Diapers, industrial wiping cloths, surgical gowns and masks, bedding and various items of clothing are among the most common products in this field. However, much greater growth in these and other items is anticipated in the future, when satisfactory solutions are found to such problems as fire retardancy and disposability — areas in which National is active.

Our sizing starches for weaving are applicable to virtually all types of fabric, from the simplest cottons to the most difficult blends. Proctor Chemical Company products for the textile industry include permanent press, soil release and easy care finishing chemicals. In addition, through our close association with the paper, textile and adhesive industries, we are uniquely suited to serve the fast-growing non-woven fabric market.





Cosmetics and Pharmaceuticals

Acceptance of National products for hair sprays, conditioners and setting lotions has more than equalled the general growth and new product development pattern of the cosmetic industry.

Our ultra-violet-absorbing hair spray fixative has been adopted by a number of cosmetic houses, while formulation innovations with some of our established Resyns® have made them applicable for such recent consumer products as hair thickeners, aerosol conditioners for electric curlers and "dry look" aerosols for men.

National product innovations continue to offer cosmetic formulators wide latitude in such consumer benefits as variable hair spray holding power, curl retention, non-tackiness and easy shampoo removability. In addition, the use of National's specialty starches in body, bath and baby powders continues to grow.

The cosmetic industry, much like the convenience food industry, requires a constant flow of new ideas and products, and National's recognition as an innovative supplier of both has grown steadily.

Our expanding resin technology is helping to meet the cosmetic industry's demand for a continuous supply of new product ideas and improved formulations for existing products.

INTERNATIONAL



International operations continue to expand, geographically as well as in sales volume. Here Berkley V. Schaub, Vice President, International Operations, *left*, confers with Maurice Martin, Sales Manager of Bericol, S. A., one of our French affiliates.

International operations showed good progress in 1970. Canada achieved record sales and profits with starch activities providing the strongest gains. Good growth in food sales and increased sales emphasis on Cato-Size for paper helped lead the advance. In adhesives, hot melts continued to find wider acceptance. Polymer sales were affected somewhat by severe price competition.

As previously mentioned, the new starch refinery at Collingwood, Ontario is operating well. LE PAGES Ltd., which also achieved record sales and profits, expects to occupy its new 100,000 sq. ft. plant, now under construction at Bramalea, Ontario, in mid-summer, 1971.

In Mexico a number of steps have been taken to broaden our markets and our potential. Reorganization of adhesive manufacturing operations and installation of new hot melt and solvent adhesive manufacturing equipment are expected to provide new production efficiencies and marketing flexibility.

National Adhesives and Resins Ltd., England, moved ahead strongly in polymers for non-woven applications, paper and board coatings and cosmetics. Adhesive sales also advanced, led by increasing acceptance of hot melts for a wide variety of applications. Expanded resin polymerization capacity, and installation of a 4,000 gallon reactor during 1971 will increase the company's production capabilities significantly.

Our new Australian resin polymerization facility came on stream in July and is operating satisfactorily. Record sales and earnings results were achieved through steady growth in both adhesive and resin markets.

Both our specialty starch joint

ventures, Laing-National in England and Roquette-National in France, reached significant new highs in sales and earnings.

Operations of Holland's Delft-National Chemie resulted in a new sales high, but profits fell slightly below 1969's record level. Hot melt adhesive activity continued to expand rapidly, particularly in the area of bookbinding. Manufacturing improvements included completion of expanded bulk storage for base resin emulsions and reactor modifications which now permit production of solution polymers.

Increases in all major product groups, with hot melts showing particular progress, resulted in strongly increased sales for Bericol in France. Construction of a new plant at Villefranche, about 25 miles north of the present facility at Lyon, will begin during 1971 and will permit greater production efficiencies, as well as expanded capacity. Technical Adhesives and Chemical Products, our South African affiliate, again attained record sales and profit levels in 1970.

International activities were expanded in February 1971, with the establishment of a joint venture with Adhesivos y Gomas de Venezuela, C. A. (Adgovenca), of Caracas, Venezuela, a subsidiary of Montana C. A. Adgovenca manufactures and markets adhesives in Venezuela and marks our first venture in South America.

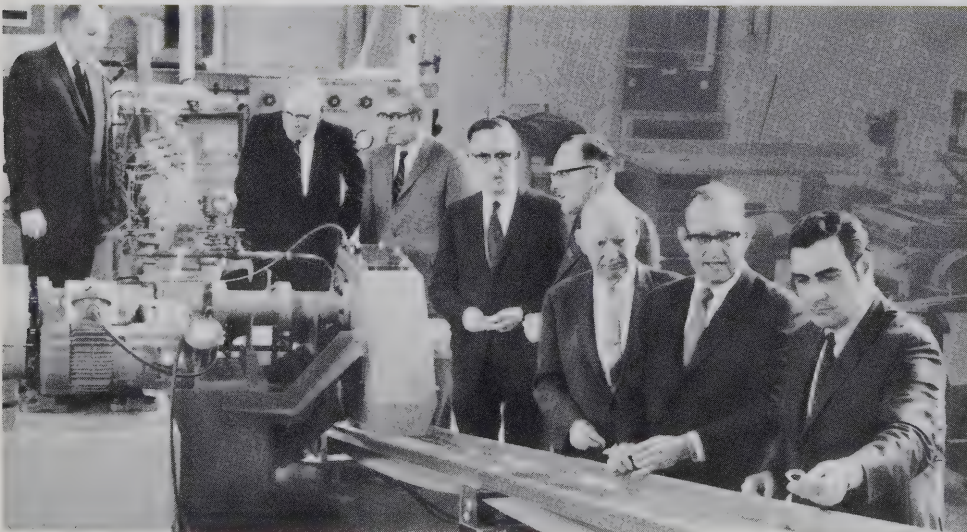
In addition, in March, 1971, we concluded agreements for establishing a joint venture with Oji Cornstarch Company of Japan. Oji Cornstarch is presently one of Japan's largest corn refiners and a new plant, now under construction, will significantly increase capacity.

RESEARCH AND DEVELOPMENT



Adhesive and Resin Divisions Research Committee members, l. to r. (by divisional title unless corporate is indicated): Francis L. Murphy, V.P., Resin Marketing; S. F. Thune, Corporate Executive V.P., Adhesive and Resin Divisions; A. G. Battaglia, Corporate Assistant V.P., Long Range Planning; Robert A. DeWolfe, V.P., Adhesive Marketing; Richard A. Weidener, Manager, Adhesives Technical Development; Irwin Cohen, V.P., Resin Research; Wallace K. Grubman, V.P., Adhesive and Resin Manufacturing.

Starch Division Research Committee inspecting the Company's recently installed snack food pilot plant. Members l. to r. (by divisional title unless corporate is indicated): Robert A. Bintz, Corporate V.P., Starch Manufacturing; Robert W. Merritt, Corporate Executive V.P., Starch Division; A. G. Battaglia, Corporate Assistant V.P., Long Range Planning; Otto B. Wurzburg, V.P. Starch Research; William H. Stone, V.P., Marketing, Industrial Starches; John F. Fitzgerald, Corporate V.P., Starch Marketing; Leonard J. Wood, V.P., Technical, Industrial Starches; Nicholas G. Marotta, Product Manager, Food.



Development of specialty products to fit the needs of the industries we serve has always been National's basic research approach. That these needs are indeed changing and that our research and development efforts are meeting the challenge, is evidenced by the fact that nearly one-third of 1970 sales, excluding by-products, came from products developed in the previous 10 years.

Each company division is responsible for research relating to its operations. Research direction and coordination is in the hands of a divisional committee of top research, marketing and manufacturing executives. In addition, a special research group engages in overall evaluation of new raw materials, new markets and additional product lines for industries already covered.

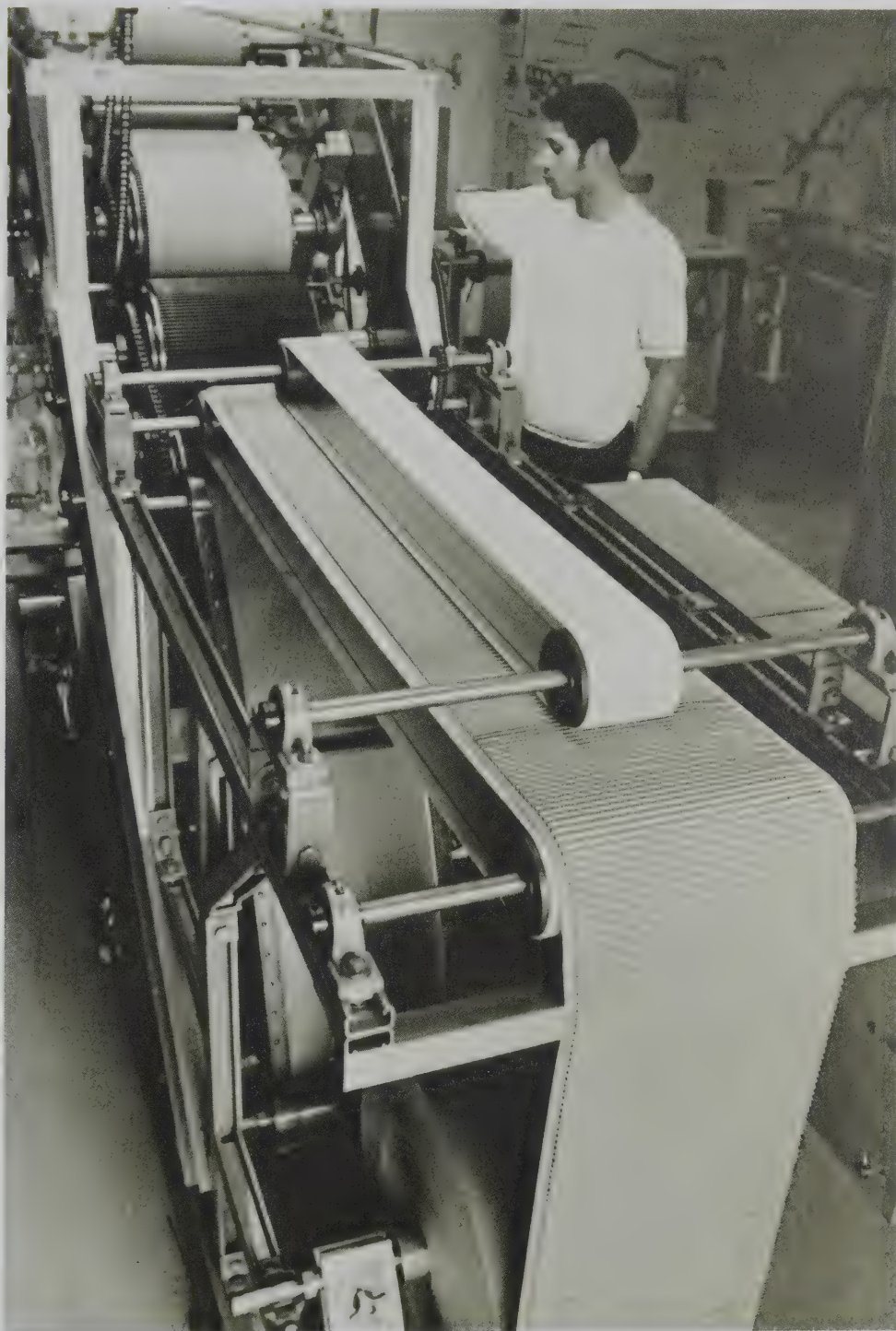
The specialty nature of our product approach and consequently, the need for strong technical service to customers, has led to the continuous installation of highly sophisticated pilot plant facilities at our Alexander Research Laboratories, in Plainfield, N. J. These facilities permit research and testing that is often too time-consuming, costly and disruptive to be carried out in customer plants. Among the facilities installed in recent years are a pilot coater to study binder systems for paper coatings; a slashing machine to help develop textile warp sizes; a tabletting unit for pharmaceutical work, an aerosol filler, a film laminator and a

gumming coater for the study of remoistenable adhesives.

Two new pilot units became operational in 1970. The first, a laboratory corrugator, was designed and built by National personnel to test corrugating adhesives. It is far smaller than a regular corrugating machine, but can perform virtually every operation, including some not possible on existing production units. Steady growth in the paperboard industry has necessitated higher production speeds and greater demand for waterproof and other specialized types of board. The adhesive used to bind corrugated board components together must permit high speed production through fast bonding and in many cases must also remain water resistant.

The second new unit, our snack food pilot plant, completes the link between laboratory development of food items and actual production. Capable of producing 150 lbs. per hour of extruded product, the pilot plant may also be utilized by customers for test market quantities of new products.

Various starch mixtures, under close automatic control, are extruded and cut into any desired shape. Baking or frying is then carried out in the food laboratory. In addition to snacks, the plant facility will be used to test a variety of other food products. With the snack food unit a new dimension has been added to National's overall research, marketing and customer service capability.



One of a growing number of unique research and development tools is this pilot corrugator at our Alexander Laboratories, Plainfield, New Jersey. The unit, which became operational at mid-year, was designed by National personnel, to develop and test new corrugating adhesive systems.

NATIONAL STARCH AND CHEMICAL CORPORATION

AND SUBSIDIARY COMPANIES

Statement of Consolidated Income

	For the Year ended December 31,	1970	1969
Net sales		\$134,941,493	\$128,057,991
Cost of sales		92,810,166	88,598,793
Gross profit		42,131,327	39,459,198
Selling, general and administrative expense		23,633,916	22,602,414
Operating profit		18,497,411	16,856,784
Other income		1,614,555	1,620,825
Total income		20,111,966	18,477,609
Other charges		2,612,934	2,209,889
Income before provision for taxes		17,499,032	16,267,720
Provision for estimated federal, foreign and state taxes on income		8,069,788	7,877,730
Net income		9,429,244	8,389,990
Preferred stock dividend requirement		472,500	472,500
Net income applicable to common stock		\$ 8,956,744	\$ 7,917,490
Net income per common share (Conversion of preferred stock would not be dilutive)		\$1.54	\$1.37

Statement of Consolidated Retained Earnings

	For the Year ended December 31,	1970	1969
Retained earnings, January 1		\$ 34,876,962	\$ 30,156,067
Net income		9,429,244	8,389,990
Total		44,306,206	38,546,057
Dividends:			
Common stock		3,487,130	3,378,695
Preferred stock		472,500	236,250
Subsidiary company's dividend prior to acquisition		—	54,150
Total		3,959,630	3,669,095
Retained earnings, December 31,		\$ 40,346,576	\$ 34,876,962

Note: The accompanying financial notes are an integral part of these statements.

Consolidated Balance Sheet

	December 31,	1970	1969
ASSETS			
Current Assets:			
Cash	\$	5,337,724	\$ 3,797,096
Marketable securities, at cost (market value \$646,170 and \$567,965)		526,258	526,353
Accounts receivable:			
Trade		16,194,564	14,515,490
Other		2,037,044	2,097,203
Inventories, at lower of average cost or market:			
Finished goods		13,177,899	12,571,597
Raw materials and supplies		14,197,170	9,938,448
Total Current Assets		51,470,659	43,446,187
Investments at cost		2,033,012	2,179,932
Property at cost:			
Land		2,058,769	1,815,839
Buildings and improvements		21,069,525	19,223,668
Equipment		64,140,202	59,607,961
Construction in progress and other		2,858,599	3,924,332
Total		90,127,095	84,571,800
Less accumulated depreciation and amortization		41,865,752	37,157,927
Property—net book value		48,261,343	47,413,873
Other Assets		2,289,398	2,432,194
Total		\$104,054,412	\$95,472,186
LIABILITIES			
Current Liabilities:			
Notes payable to banks	\$	7,095,378	\$ 3,227,551
Long term debt due within one year		4,443,535	3,043,072
Accounts payable		4,522,985	3,731,130
Accrued taxes		3,215,263	2,743,459
Accrued expenses		2,174,180	2,172,882
Total Current Liabilities		21,451,341	14,918,094
Long Term Debt Maturing After One Year		9,609,377	14,052,896
Deferred Income Taxes and Other Credits		2,012,477	989,593
Stockholders' Equity:			
Preferred stock (liquidation value \$10,500,000)		105,000	105,000
Common stock		2,934,046	2,934,046
Paid-in surplus		29,096,935	29,096,935
Retained earnings		40,346,576	34,876,962
Total		72,482,557	67,012,943
Less treasury stock at cost		1,501,340	1,501,340
Total Stockholders' Equity		70,981,217	65,511,603
Total		\$104,054,412	\$95,472,186

Note: The accompanying financial notes are an integral part of this statement.

NATIONAL STARCH AND CHEMICAL CORPORATION

AND SUBSIDIARY COMPANIES

Consolidated Statement of Source and Application of Funds

	For the Year ended December 31,	1970	1969
Source of Funds:			
Net income		\$ 9,429,244	\$ 8,389,990
Depreciation		4,768,983	4,733,406
Deferred credits		1,022,884	344,656
Employee stock plans		—	357,967
Term debt—new		—	4,072,532
Total Source of Funds		<u>15,221,111</u>	<u>17,898,551</u>
Application of Funds:			
Capital additions		5,653,473	9,095,190
Cash dividends		3,959,630	3,669,095
Term debt reduction		4,443,519	3,018,867
Other—net		(326,736)	725,374
Total Application of Funds		<u>13,729,886</u>	<u>16,508,526</u>
Working Capital Increase		<u>\$ 1,491,225</u>	<u>\$ 1,390,025</u>

Financial Notes

applicable to 1970 financial statements

1. CONSOLIDATED GROUP—The consolidated statements include the accounts of all subsidiaries of the Company of any significance. The Company's joint ventures in foreign countries have not been consolidated and the investment in these ventures is carried at cost.

2. TRANSLATION OF ACCOUNTS—The accounts of the Canadian companies have been translated into United States dollars as follows: net assets, at the exchange rate in effect at year-end except for property and investment accounts which were translated at historic rates of exchange; income and expense accounts, at the average rate of exchange prevailing during the year except for the provision for depreciation which has been translated on the same basis as the related asset accounts. The unrealized foreign exchange gain resulting from the year-end translation of net Canadian assets has not been brought into income but has been included under Deferred Other Credits. The accounts of the English, Mexican and Australian subsidiaries have been translated at appropriate rates of exchange.

3. DEPRECIATION—The Company's assets placed in service subsequent to January 1, 1968 are depreciated on the straight-line method. The remainder of the Company's assets are depreciated, in the main, on accelerated methods, principally the double declining balance method. For tax purposes, accelerated methods are used and deferred taxes are provided for the difference between the book and tax methods

for computing depreciation. The Company's subsidiaries use various methods of depreciation, but their combined depreciation expense is not a significant portion of consolidated depreciation which, for 1970, is \$4,768,983.

4. OTHER ASSETS—Other Assets includes \$1,343,494, representing the excess of cost over book value of purchased assets, and \$686,600, representing the unamortized value of restricted common stock issued to certain employees (see note 7).

5. LONG TERM DEBT AND DIVIDEND RESTRICTION—Under the Company's loan agreements, executed in 1966, 1967 and 1969, dividend payments on its stock, other than stock dividends, are limited to earnings of the Company accumulated after December 31, 1965, the unrestricted balance of which amounts to \$23,284,782 on December 31, 1970. The Company is also required to maintain working capital in an amount not less than \$16,000,000. At December 31, 1970, \$13,875,000 is outstanding under these loan agreements and is repayable in installments from 1971 to 1975.

6. RETIREMENT PLANS—The Company has several pension plans under which substantially all of its employees are eligible for coverage. The Company's policy is to fund pension cost accrued; prior service costs are amortized over 30 years. The assets of the pension funds exceed the actuarially computed value of vested benefits for all plans as of the latest valuation dates. In addition to these plans, certain subsidiaries have plans, but their combined cost is not a significant portion of consolidated pension expense which, for 1970, is \$790,898.

7. STOCK PLANS—Under the Company's 1951 and 1965 Stock Option Plans for Key Management Employees, 67,172 shares of common stock are issuable under options outstanding on December 31, 1970, the same number as were issuable on January 1, 1970. On November 12, 1970, new options were granted with respect to 27,979 shares but these options are to be reduced by the number of shares purchased pursuant to the exercise of existing options granted on January 24, 1966. During 1970, no options were exercised. All outstanding options are pursuant to grants made at 100% of the market price on the date of grant.

In addition, on December 31, 1970, there are outstanding 24,550 shares of the Company's common stock, restricted in various ways and for varying periods, which were granted in 1969, pursuant to the Company's Stock Ownership Incentive Plan, to certain key employees. The aggregate market value at the time of the grant of these outstanding shares was charged to Other Assets and is being amortized over the years of future service estimated to be rendered by such employees.

8. INCOME TAXES—The provision for estimated federal, foreign and state taxes on income includes deferred taxes of \$773,430. This provision also reflects the full amount of the United States investment tax credit which, in 1970, is \$116,559.

9. STOCKHOLDERS' EQUITY—

CAPITAL STOCK:

Preferred —

No par; authorized 250,000 shares;
issued 105,000 shares Convertible
Series A (see Note 10) liquidation value \$10,500,000..\$ 105,000

Common —

\$.50 par; authorized 8,000,000 shares;
issued 5,868,091 shares 2,934,046

Reserved:

298,790 shares
for Stock Option Plans
and conversion of preferred stock

PAID-IN SURPLUS 29,096,935

RETAINED EARNINGS 40,346,576

TREASURY STOCK

(56,208 Common shares at cost) (1,501,340)
\$70,981,217

10. PREFERRED STOCK—The 105,000 shares of preferred stock, Convertible Series A, has a cumulative \$4.50 per share dividend rate and is convertible at a conversion price of \$45.33 per share of common stock into 231,618 shares of common stock at the option of the holders thereof. It is callable on July 1, 1974 at \$104.50 per share and at annually reducing amounts to July 1, 1979 when it becomes callable at \$100. per share. The aggregate preference on involuntary liquidation exceeds the stated value by \$10,395,000. No restriction on surplus results from this amount being in excess of stated value.

11. CONTINGENT LIABILITIES—Certain claims are pending against the Company but, in the opinion of the Company, these matters are not expected to have a significant effect on the consolidated financial condition.

Accountants' Report

MAIN LAFRENTZ & CO.

280 Park Avenue, New York, N.Y. 10017

To the Board of Directors and Stockholders of

National Starch and Chemical Corporation

We have examined the consolidated balance sheet of National Starch and Chemical Corporation and subsidiary companies as of December 31, 1970, and the related consolidated statements of income, retained earnings and source and application of funds for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances. With respect to certain subsidiaries, we have relied upon reports submitted by other independent public accountants, which indicate their examinations were similar in scope.

In our opinion, the consolidated statements referred to above present fairly the financial position of National Starch and Chemical Corporation and subsidiary companies as of December 31, 1970, and the results of their operations and source and application of funds for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

New York, N.Y.

February 19, 1971

Main Lafrentz & Co.
Certified Public Accountants

NATIONAL STARCH AND CHEMICAL CORPORATION

AND SUBSIDIARY COMPANIES

Ten Year Summary of Financial Information—1961-1970

Operating Results

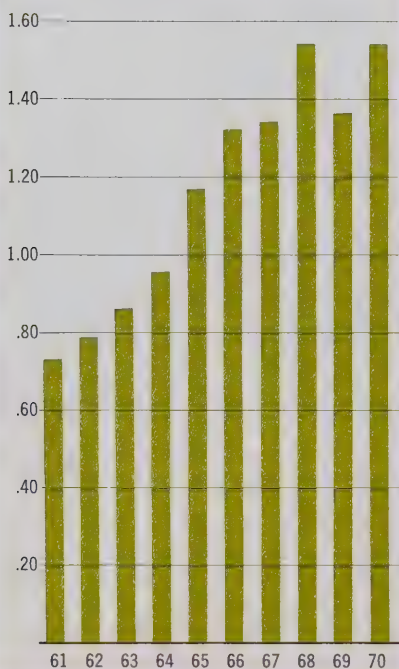
Year	Net Sales	Cost and Other Expenses (net)	Earnings Before Income Taxes	Income Taxes	Net Income†	Net Income Per Common Share*†	Cash Dividends Per Common Share*	Depreciation
1970	\$134,941,493	\$117,442,461	\$17,499,032	\$8,069,788	\$9,429,244	\$1.54	\$.60	\$4,768,983
1969	128,057,991	111,790,271	16,267,720	7,877,730	8,389,990	1.37	.58	4,733,406
1968	125,630,958	107,261,323	18,369,635	9,046,921	9,322,714	1.54	.53	4,876,074
1967	111,882,834	97,531,751	14,351,083	6,539,802	7,811,281	1.35	.51	4,479,894
1966	105,200,030	91,023,353	14,176,677	6,541,788	7,634,889	1.32	.45	4,129,650
1965	94,856,432	82,532,407	12,324,025	5,562,137	6,761,888	1.17	.37	3,608,040
1964	83,499,340	73,176,964	10,322,376	4,969,933	5,352,443	.96	.34	2,934,708
1963	75,972,814	66,113,258	9,859,556	5,111,915	4,747,641	.86	.29	2,914,548
1962	70,566,152	61,724,425	8,841,727	4,490,943	4,350,784	.79	.26	2,861,459
1961	65,171,184	56,931,820	8,239,364	4,245,637	3,993,727	.73	.23	2,330,247

*Computed on average shares outstanding during the year and adjusted for 2% stock dividend in 1961, 3% stock dividends in 1962, 1963 and 1964, 5% stock dividend in 1968 and 3 for 2 distributions in 1965 and 1969.

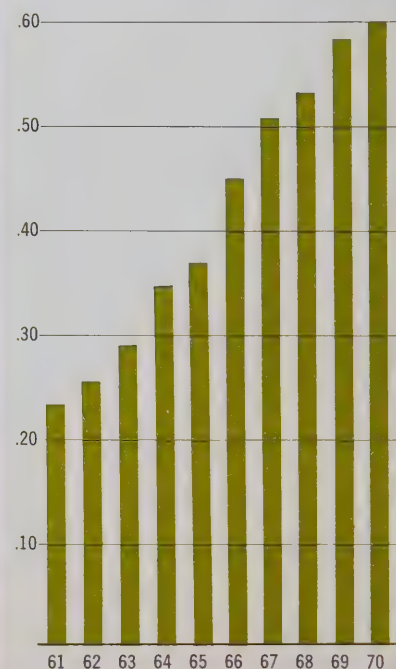
†Excludes extraordinary items

1968 and thereafter include Proctor Chemical Company, Inc.

Net Income per Common Share
IN DOLLARS



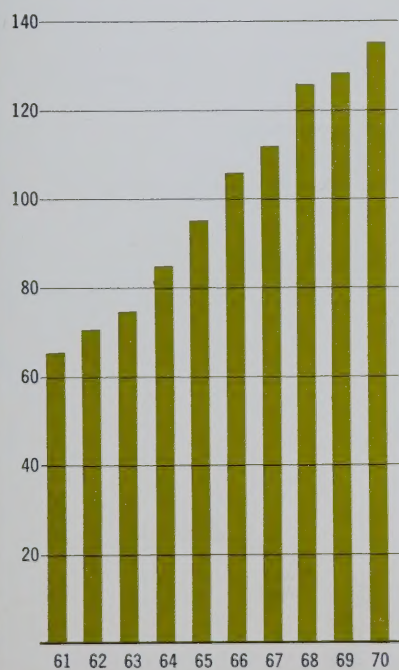
Dividends per Common Share
IN CENTS



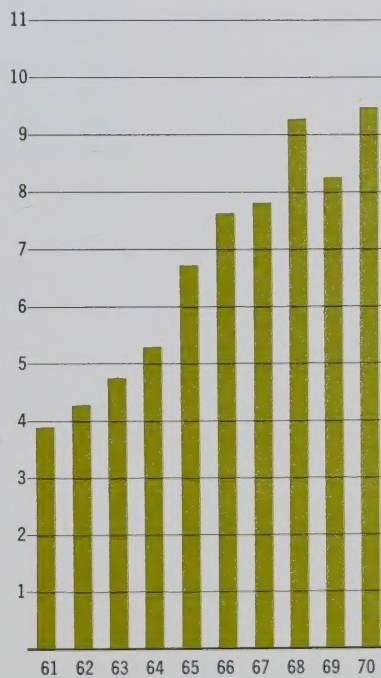
Financial Postion

Year	Current Assets	Current Liabilities	Working Capital	Plants, Properties and Equipment — Net of Depreciation	Capital Additions	Long term Debt	Common Stockholders' Equity	Equity Per Common Share*	Current Ratio
1970	\$51,470,659	\$21,451,341	\$30,019,318	\$48,261,343	\$ 5,653,473	\$ 9,609,377	\$60,481,217	\$10.41	2.4 to 1
1969	43,446,187	14,918,094	28,528,093	47,413,873	9,095,190	14,052,896	55,011,603	9.50	2.9 to 1
1968	40,924,889	13,786,821	27,138,068	42,345,327	10,951,815	12,999,231	48,996,793	8.51	3.0 to 1
1967	35,679,009	9,682,150	25,996,859	36,411,072	8,444,712	12,604,783	51,872,726	8.99	3.7 to 1
1966	33,383,476	13,129,760	20,253,716	32,451,695	10,815,248	7,701,528	46,878,556	8.13	2.5 to 1
1965	27,037,775	9,913,364	17,124,411	25,815,361	6,004,470	2,051,956	42,413,448	7.35	2.7 to 1
1964	25,700,623	10,038,111	15,662,512	23,458,376	8,950,961	2,729,699	38,063,231	6.85	2.6 to 1
1963	26,819,098	8,603,941	18,215,157	17,489,009	2,271,257	6,406,687	30,424,087	5.50	3.1 to 1
1962	21,859,359	7,355,094	14,504,265	17,699,876	5,481,800	7,185,417	26,986,220	4.91	3.0 to 1
1961	22,782,874	7,299,871	15,483,003	16,379,196	2,576,963	8,175,714	25,061,182	4.46	3.1 to 1

Net Sales
IN MILLIONS OF DOLLARS



Net Income After Taxes
IN MILLIONS OF DOLLARS



NATIONAL STARCH AND CHEMICAL CORPORATION

Locations

Includes joint ventures and associated companies.

Sales and Customer Service Centers

Atlanta
Buffalo
Canton, Mass.
Charlotte
Chicago
Cincinnati
Cleveland
Dallas-Ft. Worth
Denver
Detroit
Houston
Indianapolis
Los Angeles
Memphis
Milwaukee
Minneapolis
New Orleans
New York
No. Kansas City, Mo.
Philadelphia
Pittsburgh
Portland, Ore.
Salisbury, N.C.
Saylesville, R. I.
St. Louis
San Francisco
Seattle

Sydney, Australia
Montreal, Canada
Toronto, Canada
Vancouver, Canada
Braunston, England
Manchester, England
Slough, England
Lille, France
Lyon, France
Frankfurt, Germany
Delft, Holland
Kingston, Jamaica
Mexico City, Mexico
Benoni South, South Africa

Manufacturing Operations

Atlanta
Buffalo
Canton, Mass.
Chicago
Cincinnati
Dallas-Ft. Worth
Grafton, N. Dakota
Indianapolis
Long Mott, Texas
Los Angeles
Memphis
Meredosia, Ill.
No. Kansas City, Mo.
Plainfield, N. J.
Salisbury, N. C.
San Francisco
Towaco, N. J.

Sydney, Australia
Collingwood, Canada
Montreal, Canada
Toronto, Canada
Vancouver, Canada
Battersea, England
Braunston, England
Goole, England
Manchester, England
Slough, England
Lestrem, France
Lyon, France
Vecquemont, France
Delft, Holland
Kingston, Jamaica
Mexico City, Mexico
Benoni South, South Africa

Executive Offices:

750 Third Avenue
New York, N. Y. 10017

Research Center:

Plainfield, N. J.

In Australia:

Inter-National Adhesives
and Resins Pty. Ltd., Sydney

In Canada:

National Starch and Chemical Co.
(Canada) Ltd., Toronto
LE PAGE'S Limited, Toronto

In England:

National Adhesives and Resins Limited,
Slough
Laing-National Limited, Battersea

In France:

Roquette-National Chimie, Lille
Bericol, S.A., Lyon

In Germany:

Delft-National Chemie GmbH, Frankfurt

In Holland:

Delft-National Chemie, N. V., Delft

In Jamaica:

LE PAGE-Stacote Limited, Kingston

In Mexico:

National Starch and Chemical de
Mexico, S.A. de C.V., Mexico City

In South Africa:

Technical Adhesives
& Chemical Products (Pty.) Ltd.,
Benoni South

In Switzerland:

Delft-National Chemie A.G., Winterthur



NATIONAL STARCH AND CHEMICAL CORPORATION